

HELIAMPHORA SARRACENIOIDES, A NEW SPECIES OF
HELIAMPHORA (SARRACENIACEAE) FROM VENEZUELA

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Introduction

During our last expedition to some of the table mountains in Venezuela in January 2004 we discovered a species of *Heliamphora* (Sarraceniaceae) that has unique characteristics (see Front Cover, and Figures 1-4), and hence is described as a new species here.

Heliamphora sarracenioides Carow, Wistuba & Harbarth *spec. nov.*

Caudex ramosus; foliis rosulatis; amplioris 20-30 cm longis, tubulosis, basin versus infundibuliformibus, in parte media ventricosis, et in parte superiore obconicis, ore versus angustatis extus glabris, parte superiore interiore glabris; appendicibus triangularibus, 2.5-3.5 cm latis, 4-5 cm longis, basi non constrictis.

Inflorescentiis 2-3-floris, racemosis, ad 60 cm longis; flores nutantes; pedicellis 5 cm longis; petalis 4 oblongo-lanceolatis, albidis vel pallide-roseis, 4-4.5 cm longis; staminibus 10, 1-serialibus, filamentis 5-6 mm longis; antheris oblongo-lanceolatis, 7-8 mm longis; ovario valde tomentoso; stylo glabro; stigmatibus 3 lobato; seminibus fuscis, oblongis, ca. 1.5 mm longis, testa conspicue membranaceo-alata.

Rhizomes branching. Pitchers infundibulate in the lower half, ventricose in the middle and conical in the upper third, slightly narrowing towards the mouth; pitchers 20 to 30 cm long, 3-5 cm wide in the middle; upper part of the pitchers 2.5-3.5 cm wide; the uppermost quarter of the pitcher completely hairless but with scattered glands on the inner side. Underneath this zone the hairy zone starts abruptly. Lid emerging directly from the back of the pitcher mouth without any constriction, 3-4 cm wide and 4-5 cm long, often exceeding the pitcher mouth in width, triangular, upright, ending with a tip that is bent back slightly; sometimes the lids are bent forwards, overarching the mouth of the pitcher; the inner side of the lid fairly evenly scattered with glands, up to 0.2 mm across. Most plants have pitchers that are colored almost entirely red, however plants with greenish pitchers, some veined deeply red, were found as well. Inflorescence up to 60 cm long, with 2-3 flowers, peduncle entirely glabrous, pedicels 5 cm long. All carry bracts, the lowest often is transformed into a rudimentary pitcher. Tepals lanceolate, 4-4.5 cm long, 1.7-2.2 cm wide, white to whitish-pink; approximately 10 stamens in 1 series, filaments 5-6 mm long, anthers oblong lanceolate, 7-8 mm long, 1.5 mm wide; ovary 3 celled, pubescent, style glabrous; seed approximately 1.5 mm long, compressed, ovate, irregularly winged.

Specimens examined

Heliamphora sarracenioides: South Venezuela, Gran Sabana, Estado Bolivar; Wistuba, Carow & Harbarth No. 01/04/s1, holotype, flowering plant (VEN). This specimen we prepared shows a plant typical of the population that we observed.

Distribution

Heliamphora sarracenioides was discovered on a Venezuelan table mountain of the northern part of Gran Sabana. The population we found is healthy, and consists of many plants. (We observed



Figure 1: *Heliophora sarracenioides* plant. Photograph by Andreas Wistuba.



Figure 2: *Heliophora sarracenioides* plant. Photograph by Andreas Wistuba.



Figure 3: *Heliophora sarracenioides* plant. Photograph by Thomas Carow.

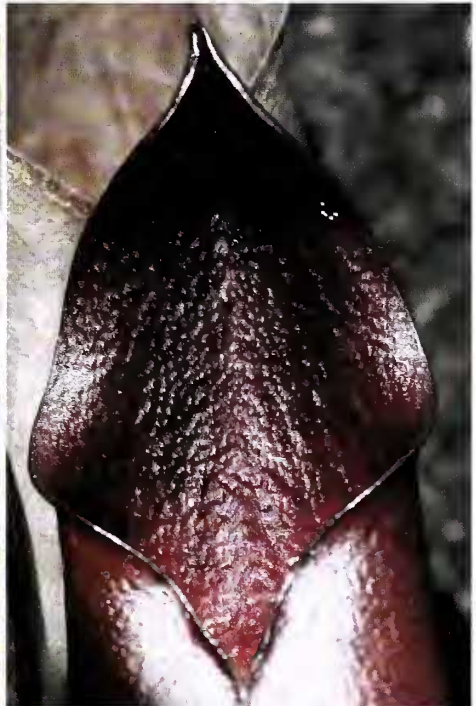


Figure 4: *Heliophora sarracenioides* pitcher opening. Photograph by Andreas Wistuba.

approximately 200 individual plants, but did not attempt to make an accurate assessment of the total plant population.) Since the population is apparently restricted to a fairly small and isolated area, we believe that it is fairly vulnerable. For reasons of conservation we decided not to present exact data on the location, or disclose what other *Heliamphora* species are found in the immediate area of *Heliamphora sarracenioides*.

Related species

The structure of the flowers with comparably large anthers in one series implicates a close relationship to *Heliamphora heterodoxa* and *Heliamphora folliculata*. The structure of the pitcher, however, with a glabrous zone beneath the rim, separates it well from *H. heterodoxa* which has a more infundibulate pitcher mouth and an upper zone with a hairy inner side of the pitcher wall. Both the evenly distributed, relatively large glands in the lid, and the shape of this lid itself clearly separates *H. sarracenioides* from both *Heliamphora heterodoxa* and *H. folliculata*.

Etymology

The pitchers reminded us of *Sarracenia* pitchers. Therefore we decided to name it *Heliamphora sarracenioides*.

Discussion

The question arises instantly, how the lid of *H. sarracenioides* could have evolved. The pitcher mouth of *Heliamphora sarracenioides* has an extremely broad lid that is often wider than the pitcher mouth itself; this bears little similarity to the pitcher mouth and lid of any other species in the genus (Maguire, 1978; Steyermark, 1984, 1986; Nerz & Wistuba, 2001; Wistuba *et al.*, 2001; Wistuba *et al.*, 2002). The lids of most other species emerge from a contracted base or are highly reduced while in *Heliamphora sarracenioides* it directly protrudes from the back of the pitcher. It is not yet clear how the unique lid structure of *Heliamphora sarracenioides* is related morphogenetically to the lids of other species. As published previously (Wistuba *et al.*, 2001; Wistuba *et al.*, 2002), we base our interpretations of *Heliamphora* systematics on the structure and shape of the gland bearing pitcher appendage (=lid) as one of the most valuable characteristics in *Heliamphora* systematics.

All other known *Heliamphora* species show an interesting dimorphism. Up to a certain age “juvenile” pitchers are produced that show little similarity to the characteristic traps of older and adult plants. The juvenile pitchers of all *Heliamphora* are generally similar, and are in fact strikingly similar to the pitchers of adult *H. sarracenioides* plants, both in shape and the glabrous inner wall of the upper pitcher areas. While it is too early to present any definitive conclusions here, we believe that the pitchers of *Heliamphora sarracenioides* could in fact represent slightly modified gigantic “juvenile” pitchers, and that *Heliamphora sarracenioides* could at least partly have abandoned the dimorphism visible in all other known species of *Heliamphora*. It also seems possible that *H. sarracenioides* represents a very old type of *Heliamphora* that does not yet show the typical dimorphism of the other species known so far. We cannot, however, rule out, that the unique pitcher shape might be the result of a special adaptation during the evolution of *H. sarracenioides*.

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